

# Ceramic Low Pass Filter

50Ω DC to 3000 MHz

## LFCN-3000+ LFCN-3000



### Maximum Ratings

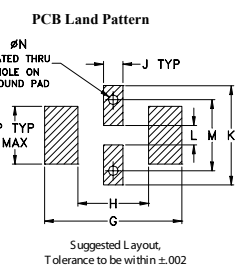
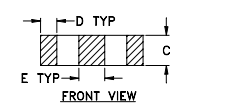
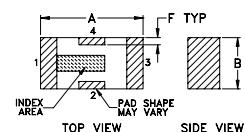
|                       |                  |
|-----------------------|------------------|
| Operating Temperature | -55°C to 100°C   |
| Storage Temperature   | -55°C to 100°C   |
| RF Power Input*       | 10W max. at 25°C |

\* Passband rating, derate linearly to 3.5W at 100°C ambient.

### Pin Connections

|        |     |
|--------|-----|
| RF IN  | 1   |
| RF OUT | 3   |
| GROUND | 2,4 |

### Outline Drawing



Suggested Layout, Tolerance to be within ±.002

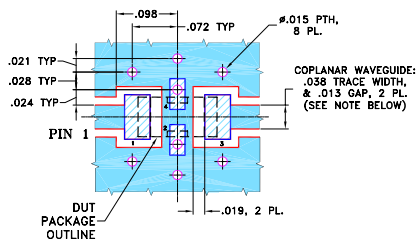
### Outline Dimensions (inch)

| A    | B    | C    | D    | E    | F    | G    |
|------|------|------|------|------|------|------|
| .126 | .063 | .037 | .020 | .032 | .009 | .169 |
| 3.20 | 1.60 | 0.94 | 0.51 | 0.81 | 0.23 | 4.29 |

| H    | J    | K    | L    | M    | N    | P    | wt    |
|------|------|------|------|------|------|------|-------|
| .087 | .024 | .122 | .024 | .087 | .012 | .071 | grams |
| 2.21 | 0.61 | 3.10 | 0.61 | 2.21 | 0.30 | 1.80 | .020  |

### Demo Board MCL P/N: TB-270 Suggested PCB Layout (PL-137)



- NOTES:**
- COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
  - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
    - Denotes PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
    - Denotes COPPER LAND PATTERN FREE OF SOLDER MASK

### Features

- excellent power handling, 10W
- small size
- 7 sections
- temperature stable
- protected by U.S. Patent 6,943,646

### Applications

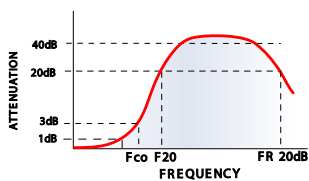
- harmonic rejection
- VHF/UHF transmitters/receivers
- lab use

### Electrical Specifications<sup>1</sup> (T<sub>AMB</sub> = 25°C)

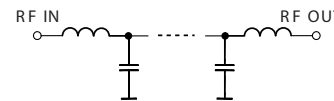
| PASSBAND (MHz)<br>(loss < 1.2 dB) | f <sub>co</sub> , MHz<br>Nom.<br>(loss 3 dB) | STOP BAND (MHz)<br>(loss, dB) |           |       | VSWR (:1) |          | NO. OF SECTIONS |
|-----------------------------------|----------------------------------------------|-------------------------------|-----------|-------|-----------|----------|-----------------|
|                                   |                                              | F 20                          | 30        | FR 20 | Stopband  | Passband |                 |
| Max.                              | Typ.                                         | Min.                          | Typ.      | Typ.  | Typ.      | Typ.     |                 |
| DC-3000                           | 3600                                         | 4550                          | 4780-7500 | 10000 | 20        | 1.2      | 7               |

1. For applications requiring DC voltage to be applied to the Input or output, use LFCN-3000D+ (DC Resistance to ground is 100 Mohms min.)

### typical frequency response

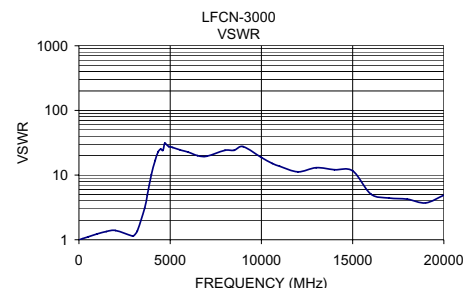
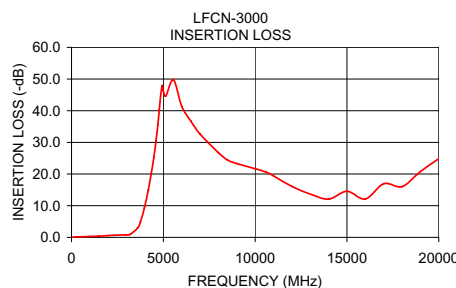


### electrical schematic



### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 50              | 0.03                | 1.01      |
| 1000            | 0.29                | 1.23      |
| 1500            | 0.40                | 1.34      |
| 3000            | 0.77                | 1.15      |
| 3600            | 2.96                | 3.08      |
| 4480            | 25.24               | 25.19     |
| 4780            | 40.44               | 29.96     |
| 5000            | 46.26               | 27.59     |
| 6500            | 36.73               | 19.98     |
| 10000           | 21.68               | 18.70     |
| 11000           | 19.41               | 13.70     |
| 13000           | 13.67               | 12.99     |
| 15000           | 14.56               | 11.61     |
| 17000           | 16.94               | 4.41      |
| 20000           | 24.85               | 4.88      |



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IF/RF MICROWAVE COMPONENTS

REV. F  
M121640  
LFCN-3000  
EDR-6783/6  
RVN/AD/CP/AM  
090218